



## **TECHNICAL MEMORANDUM**

**DATE:** February 1, 2018 (Revised February 7, 2018)  
**TO:** Boston Region MPO  
**FROM:** Michelle Scott, MPO Staff  
**RE:** Federally Required CY 2018 Highway Safety Targets

The Boston Region Metropolitan Planning Organization (MPO) voted to adopt the Commonwealth's calendar year (CY) 2018 highway safety targets for five federally required highway safety performance measures at its February 1, 2018 meeting. MPO staff—along with Massachusetts Department of Transportation (MassDOT) staff—presented information about these measures and the Commonwealth's CY 2018 targets at the MPO's January 18, 2018 meeting. MPO staff presented its recommendation that the MPO adopt the Commonwealth's targets at the February 1 meeting.

### **1 HIGHWAY SAFETY PERFORMANCE MONITORING REQUIREMENTS**

A series of federal rules designed to focus the federal surface transportation program on achieving performance outcomes were initiated under the Moving Ahead for Progress in the 21st Century (MAP-21) legislation and continued under the Fixing America's Surface Transportation (FAST) Act.<sup>1</sup> The National Performance Management Measures: Highway Safety Improvement Program rule identifies the five highway safety performance measures for which targets must be set:

- 1) Number of fatalities
- 2) Rate of fatalities per 100 million vehicle-miles traveled (VMT)
- 3) Number of serious injuries
- 4) Rate of serious injuries per 100 million VMT
- 5) Number of non-motorized fatalities and non-motorized serious injuries

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<sup>1</sup> These rules pertain to performance-based planning and programming for highway safety:

- The Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning final rule establishes requirements for state and MPO planning processes, including those pertaining to performance-based decision making, target setting, and reporting. (23 Code of Federal Regulations (CFR) Parts 450 and 771 and 49 CFR Part 613)
- The Highway Safety Improvement Program (HSIP) rule includes requirements for states to report annually on targets and progress for federally identified highway safety performance measures. (23 CFR Part 494)
- The National Performance Management Measures: Highway Safety Improvement Program rule identifies the relevant performance measures. (23 CFR Part 490)

According to these rules, the Commonwealth must establish and report targets for each of the five performance measures for the upcoming calendar year by August 31 of each year. Following the Commonwealth's target setting, the Boston Region MPO is required to establish targets and report them to MassDOT by February 27 of the calendar year for which the targets apply.

- Should the MPO adopt the Commonwealth's highway safety targets, it would agree to plan and program projects so that they contribute to accomplishing the Commonwealth's targets.
- Should the MPO set targets specific to the MPO region, it would need to set quantifiable targets. This would include estimating vehicle-miles traveled for all public roads in the MPO region and reporting the methods used to produce those estimates.

In either case, the Long-Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP) will present the measures and targets established by the MPO. The LRTP will describe progress made toward meeting these targets compared to past performance or baseline data. The TIP will provide, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving performance targets identified in the LRTP.

When setting targets, the MPO will need to coordinate with MassDOT, other participating Commonwealth agencies, and other stakeholders. It will also need to incorporate goals, objectives, measures, and targets from the Commonwealth's safety plans and processes into the MPO's planning process.

The Federal Highway Administration (FHWA) will review the Commonwealth's progress with respect to its targets once data is available, and will notify the Commonwealth about whether it has met or made significant progress toward its CY 2018 safety performance targets. Should a state not make significant progress on its highway safety targets, FHWA will limit its flexibility when spending federal transportation dollars in an effort to direct funding toward projects and initiatives that would improve highway safety. FHWA will not review MPO progress on these performance measures directly; and the MPO will neither be penalized for not achieving highway safety targets nor rewarded for attaining them. During certification reviews, FHWA will examine how MPOs are implementing a performance-based planning and programming process, and assess how MPOs are progressing toward their own targets or assisting the state in making progress toward its targets.

## 2 COMMONWEALTH HIGHWAY SAFETY PERFORMANCE TARGETS FOR CY 2018

Highway safety performance targets for CY 2018 will reflect a 2014–18 rolling annual average, as required by FHWA. For this initial target-setting year, the Commonwealth estimated safety measure trend values based on linear trend lines that were calculated using 2007–11, 2008–12, 2009–13, 2010–14, and 2011–15 five-year rolling averages. For all measures, except the non-motorized fatalities and serious injuries measure, the Commonwealth used the 2014–18 rolling average values projected by the downward trend lines as its CY 2018 targets. For the non-motorized fatalities and serious injuries measure, the Commonwealth used the 2011–15 rolling average value as its CY 2018 target.

Table 1 lists the Commonwealth’s 2011–15 rolling average values and CY 2018 targets for the five highway safety performance measures. (Charts showing trend data for these five measures are included at the conclusion of this memorandum.)

**Table 1  
2018 Massachusetts Statewide Highway  
Safety Performance Trends and Targets**

<b>Highway Safety Performance Measure</b>	<b>2015 Safety Measure Value (2011–15 Rolling Average)</b>	<b>2018 Safety Measure Target (Expected 2014–18 Rolling Average)</b>
Number of fatalities	361.0	352.0
Rate of fatalities per 100 million vehicle-miles traveled	0.641	0.610
Number of serious injuries	3,251.8	2,896.0
Rate of serious injuries per 100 million vehicle-miles traveled	5.779	5.010
Number of nonmotorized fatalities and nonmotorized serious injuries	540.8	540.8

Sources: National Highway Traffic Safety Administration Fatality Analysis Reporting System, Massachusetts Crash Data System, Massachusetts Department of Transportation.

Although nonmotorized fatalities and serious injuries are projected to increase through CY 2018 based on historic data, the Commonwealth has been working to counteract this trend through its planning and programming.

While the Commonwealth has set CY 2018 targets for these five measures to meet federal requirements, it also has a long-term goal to “Move toward Zero

Deaths” and eliminate fatalities and serious injuries on Massachusetts roadways.<sup>2</sup>

### **3 NEXT STEPS**

At its February 1, 2018 meeting, the Boston Region MPO voted to adopt and support the Commonwealth’s CY 2018 highway safety performance targets. MPO staff will present and describe these targets in the performance chapter of the federal fiscal years 2019–23 TIP document.

MassDOT and the Boston Region MPO will continue to work together to examine how planning and programming at the Commonwealth and MPO levels can support improvements in highway safety outcomes. Both agencies can also explore other methods and factors to consider when setting future highway safety performance targets. During CY 2018, the Commonwealth will be developing its next five-year Strategic Highway Safety Plan, which will inform future approaches for planning, programming, and monitoring performance to improve safety outcomes. Similarly, the MPO will be developing its next LRTP Needs Assessment during CY 2018 and will be finalizing its next LRTP in CY 2019. As part of these activities, MPO staff will analyze safety issues and trends in the Boston region in more detail. In addition to informing future target setting, this analysis will allow the MPO to examine and discuss opportunities to track other highway safety performance measures. The MPO may also choose to set additional safety targets, which may include targets with longer time horizons than those required by FHWA.

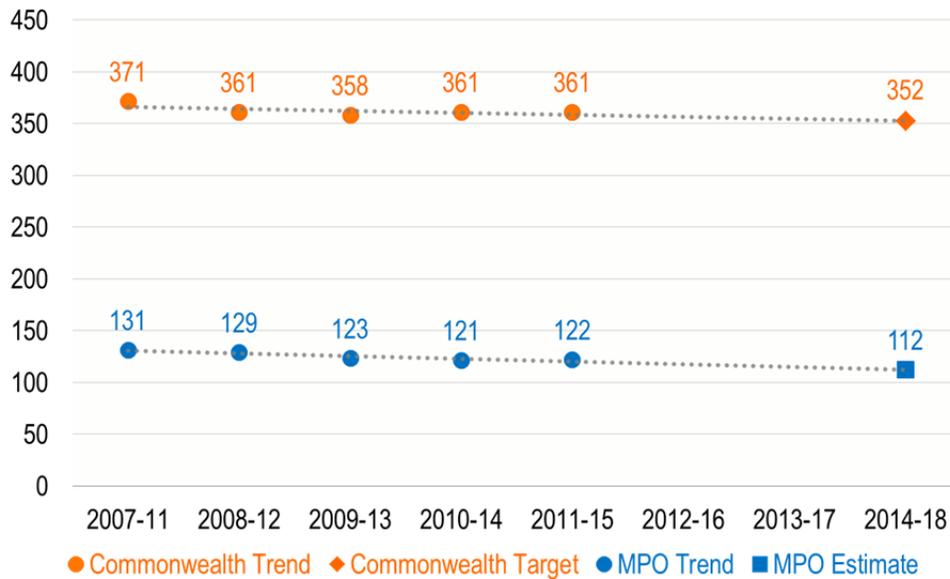
### **4 APPENDIX: HIGHWAY SAFETY PERFORMANCE TRENDS**

The five charts in this section illustrate highway safety performance trends in Massachusetts, along with the Commonwealth’s CY 2018 targets. These charts also show historic trend data and projected 2014 and 2014–18 rolling annual averages for the Boston region.

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<sup>2</sup> Massachusetts Strategic Highway Safety Plan, 2013, p. 1.

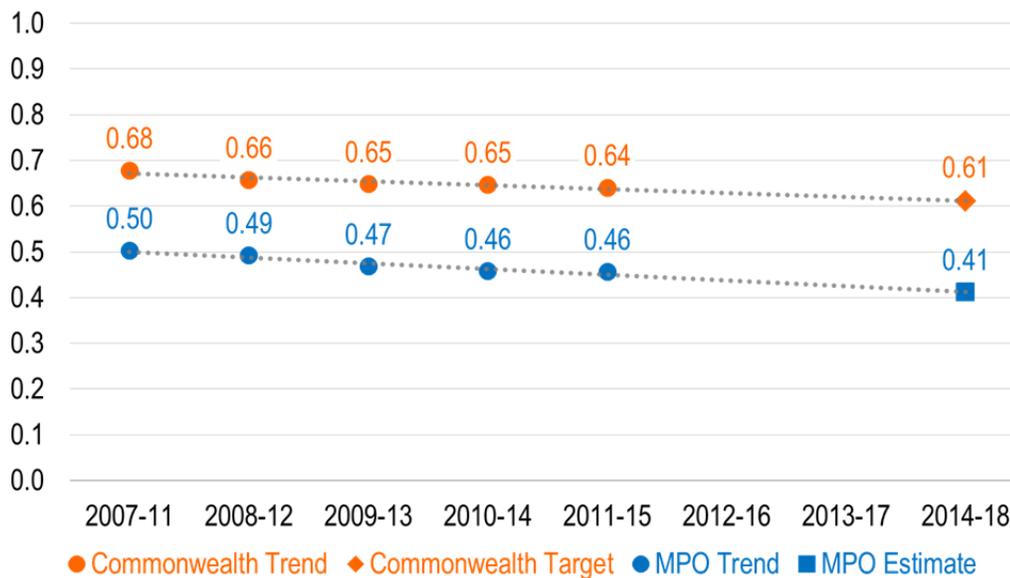
**Figure 1  
Number of Fatalities**



Boston Region MPO data reflects 101 municipalities. Values reflect five-year rolling averages and have been rounded to the nearest integer.

Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Department of Transportation, Boston Region MPO staff.

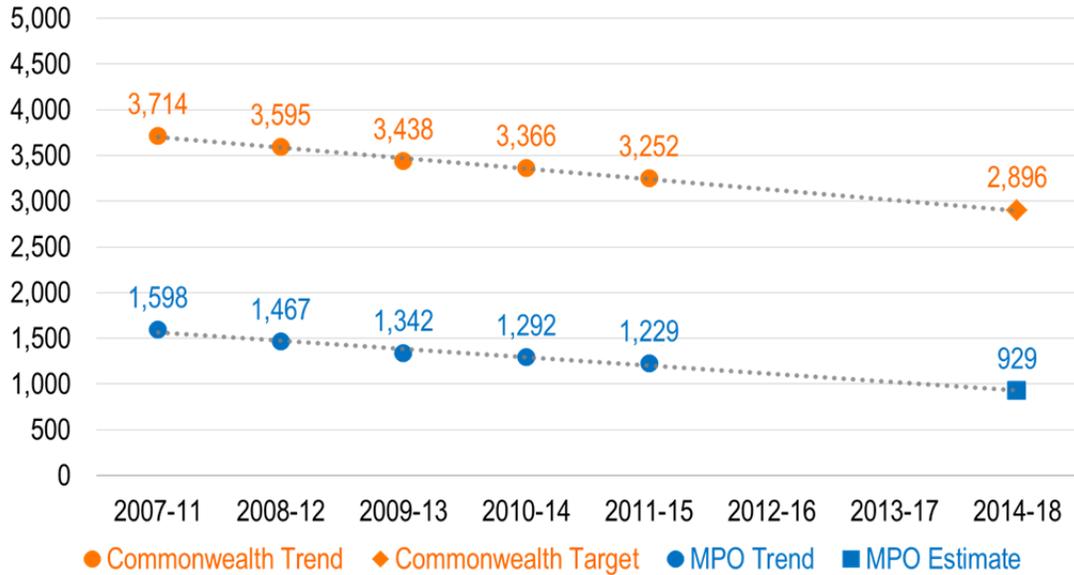
**Figure 2  
Fatality Rate per 100 Million Vehicle Miles Traveled**



Boston Region MPO data reflects 101 municipalities. Values reflect five-year rolling averages and have been rounded to the hundredth decimal place.

Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Department of Transportation, Boston Region MPO staff.

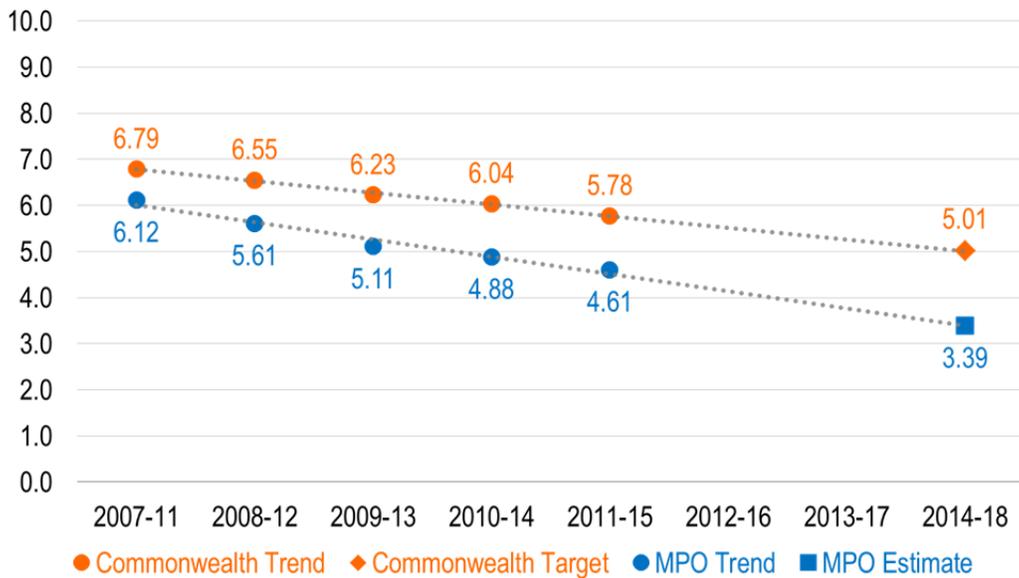
**Figure 3**  
**Number of Serious Injuries**



Boston Region MPO data reflects 101 municipalities. Values reflect five-year rolling averages and have been rounded to the nearest integer.

Sources: Massachusetts Crash Data System, Massachusetts Department of Transportation, Boston Region MPO staff.

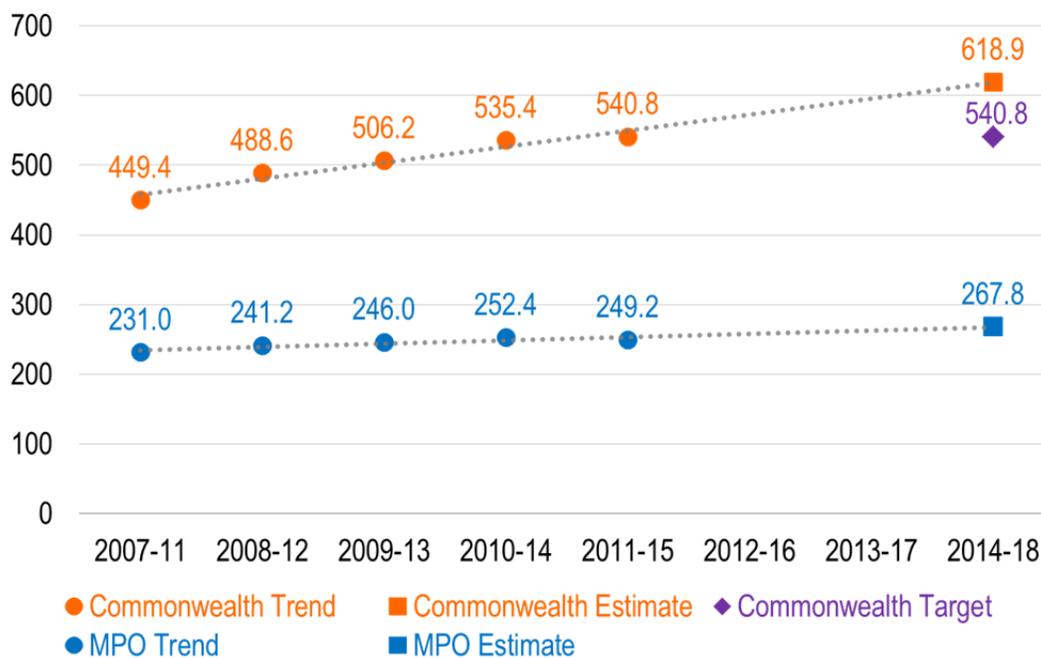
**Figure 4**  
**Serious Injury Rate per 100 Million Vehicle Miles Traveled**



Boston Region MPO data reflects 101 municipalities. Values reflect five-year rolling averages and have been rounded to the hundredth decimal place.

Sources: Massachusetts Crash Data System, Massachusetts Department of Transportation, Boston Region MPO staff.

**Figure 5**  
**Number of Non-motorized Fatalities and Serious Injuries**



Boston Region MPO data reflects 101 municipalities. Values reflect five-year rolling averages and have been rounded to the tenth decimal place.

Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Crash Data System, Massachusetts Department of Transportation, Boston Region MPO staff.

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